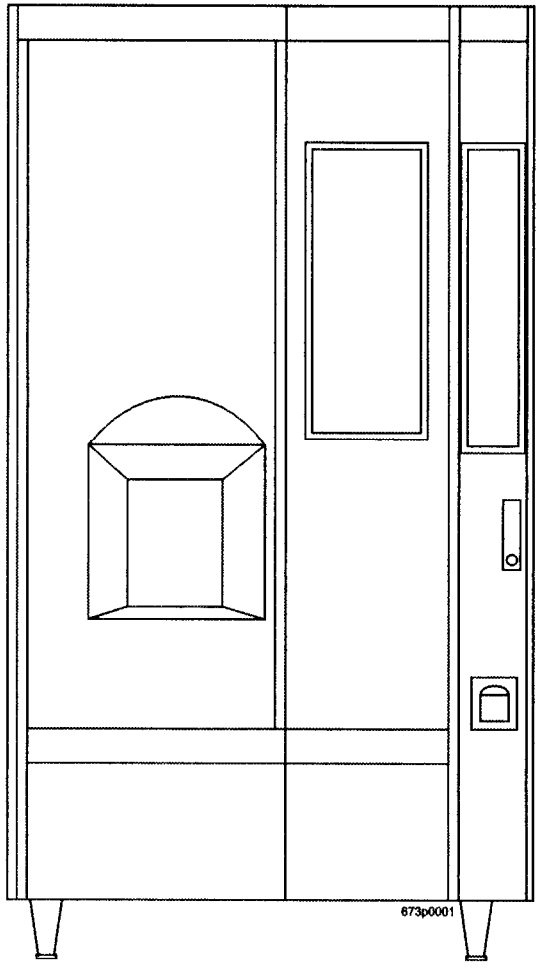
6730013

Model 673, 675, 677

SURE VEND

Hot Drink Center II



Set-Up Guide

CRANE MERCHANDISING SYSTEMS™ A Crane Co. Company
NATIONAL VENDORS
12955 Enterprise Way
Bridgeton, Missouri 63044-1200
(314) 298-3500
www.CraneMS.com

6730013

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This machine has been engineered to our own rigid safety and performance standards. It has been designed to comply with sanitation and health guidelines recommended by the Automatic Merchandising Health-Industry Council (AMHIC) and it conforms with all other NAMA safety recommendations.

This machine has been manufactured in accordance with the safety standards of both Underwriter's Laboratories and the Canadian Standards Association. To maintain this degree of safety and to continue to achieve the level of performance built into this machine, it is important that installation and maintenance be performed so as to not alter the original construction or wiring and that replacement parts are as specified in the Parts Manual. Your investment in this equipment will be protected by using this Setup and Operator's Guide, the Programming Guide, and the Parts Manual in your operation, service and maintenance work. By following prescribed procedures, machine performance and safety will be preserved.

Crane Merchandising Systems Parts and Support Phone Numbers:

Parts: 1-800-621-7278
Service: 1-800-628-8363

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Notes . . .

SPECIFICATIONS

SPECIFICATIONS COMMON TO ALL MACHINES

DIMENSIONS	72" (183 cm) high 38.12" (97 cm) wide 28.5" (72 cm) deep
WEIGHT	570 lbs (258.5 kg)
WATER REQUIREMENTS	Minimum: 20 psi (137.8 kPa) Maximum: 80 psi (551.2 kPa)
AMBIENT TEMPERATURE	Minimum: 41× F (5× C) Maximum: 90× F (32× C)
OPERATING ENVIRONMENT	For indoor use only
CUP CAPACITIES (APPROXIMATE)	12 oz cups = 600 14 oz cups = 530 16 oz cups = 380 20 oz cups = 358
CANISTER CAPACITIES (APPROXIMATE)	Regular coffee beans - 14 lbs Ground coffee - 13 lbs Freeze dry coffee - 2 lbs Decaf coffee beans - 9.5 lbs Ground decaf coffee - 9 lbs Freeze dry decaf - 2 lbs Chocolate - 10 lbs Soup - 6.7 lbs Sugar - 11 lbs Lightener - 4.5 lbs Sugar substitute - 4 lbs Tea (freeze dry) - 1.5 lbs 6th and 7th products (freeze dry) - 6 lbs each
FILTER PAPER CAPACITY	2400 vends per roll
PRODUCT OPTIONS	
MODEL 673 FRESH BREW	Up to eleven selections of fresh brew regular and decaf coffee, freeze dried regular and decaf coffee, fresh brew and freeze dried tea, soup, chocolate, cappuccino, espresso, caffè latte, and two blended drinks.
MODEL 675 FREEZE DRIED	Up to eleven selections of freeze dried regular coffee, decaf coffee, tea, soup, chocolate, cappuccino, espresso, caffè latte, and two blended drinks.
MODEL 677 FRESH BREW WITH BEAN GRINDER	Up to nine selections of fresh ground and brewed regular and decaf coffee, freeze dried regular and decaf coffee, fresh brew and freeze dried tea, soup, chocolate, cappuccino, espresso, caffè latte, and two blended drinks.

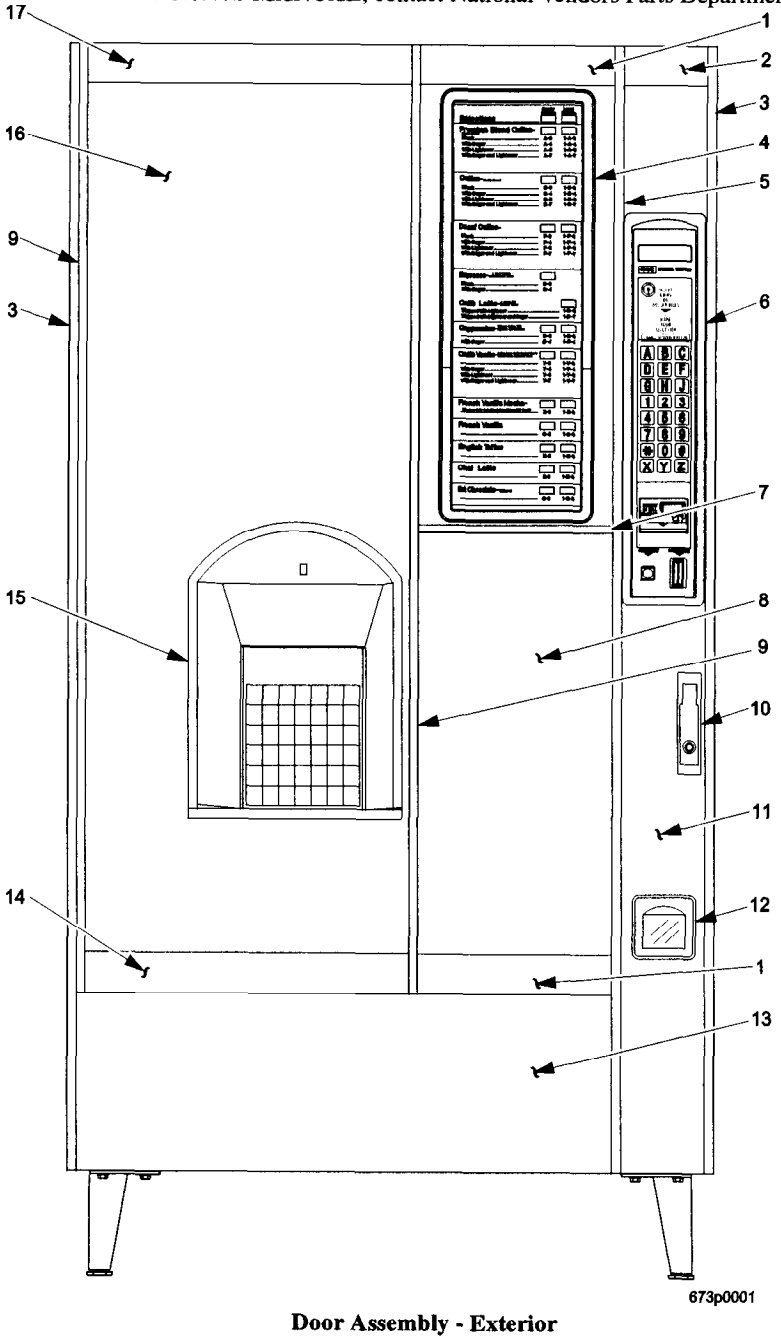
SPECIFICATIONS COMMON TO ALL MACHINES (Continued)

OPTIONS AND ACCESSORIES	
OPTIONS	Coin box lock Base grille kit Automatic delivery door Flex Ace door lock and key Van Door lock and key Sugar substitute kit 6th product kit Cup/mug electronic sensor (cup hold switch kit) Snap-on ingredient canister extension sleeves (4 tall) Everpure water filter system CUNO water filter system Debit card validator Free vend keyswitch Data printer kit Ingredient rinse tray

Home

MAJOR PARTS

The diagrams on the following pages will acquaint you with the major parts of the Hot Drink Center. For more detailed information, please consult your **PARTS MANUAL**. If you do not have a **PARTS MANUAL**, contact National Vendors Parts Department.



Door Assembly - Exterior

SPECIFICATIONS UNIQUE TO 115 VOLT MACHINES

ELECTRICAL	115 Volts AC 60 Hertz 16 Amps Single phase
OPTIONS AND ACCESSORIES	
COIN MECHANISM	MARS TRC-6000 COINTRON 3000 MARS TRC-6010XV (24 V) Maka/Conlux Model USPX-004 (24 V) Coin Acceptors Model 9302-LF (24 V)
BILL VALIDATORS	MARS VFM1 pulse MARS VFM3 serial MAKA pulse COINCO

SPECIFICATIONS UNIQUE TO 220 - 240 VOLT MACHINES

ELECTRICAL	220-240 Volts AC 50 Hertz 10 Amps 2 kW Single phase
OPTIONS AND ACCESSORIES	
COIN MECHANISM	Executive coin mechanism interface

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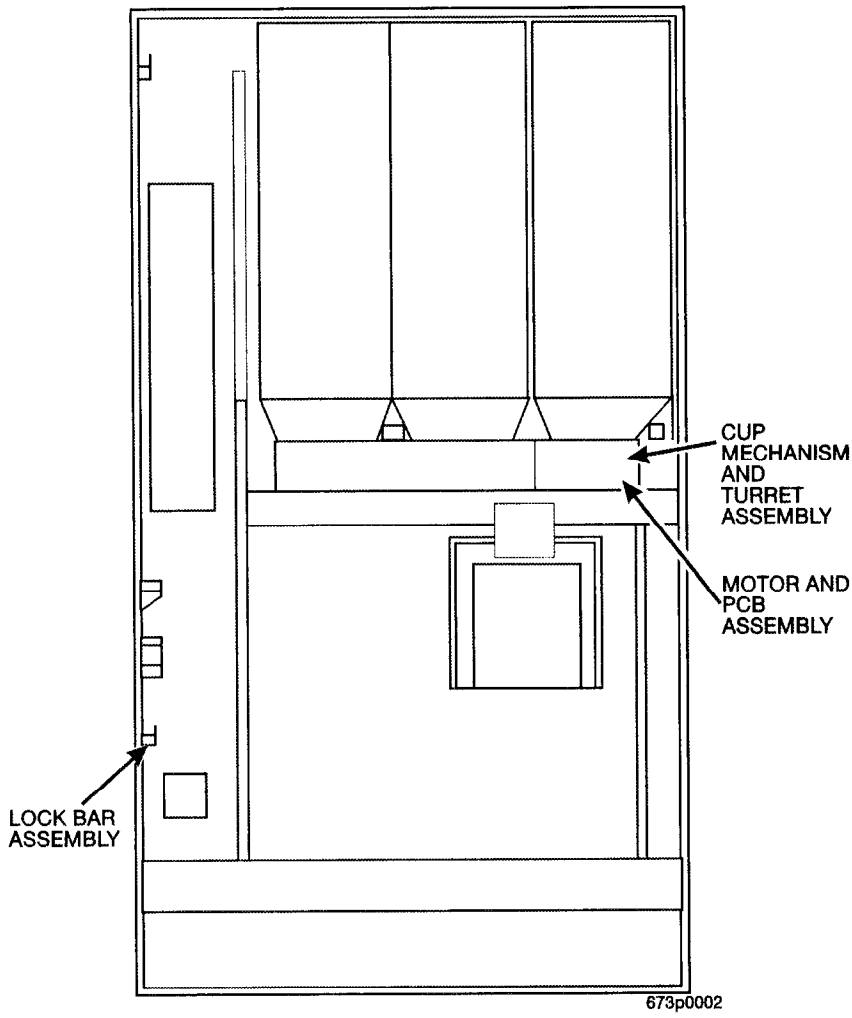
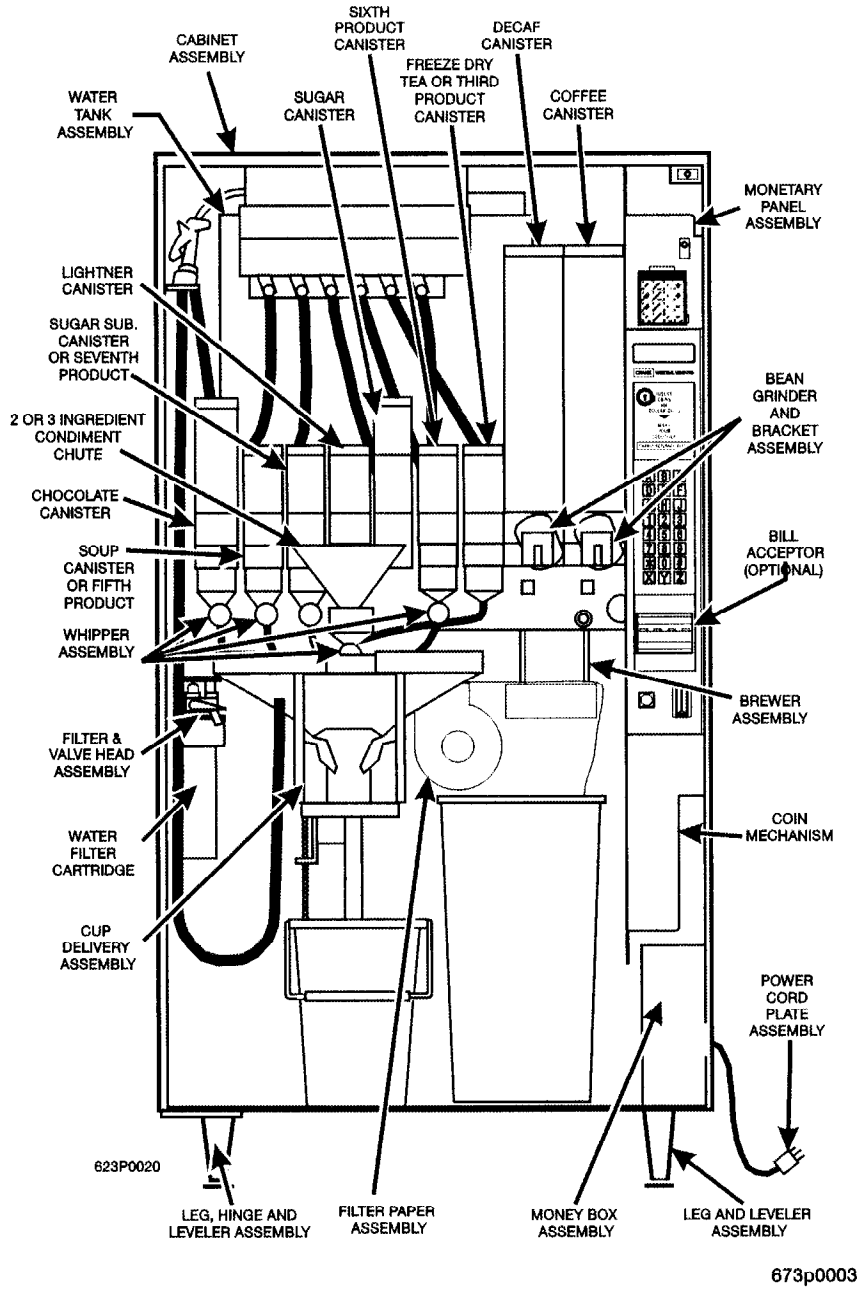


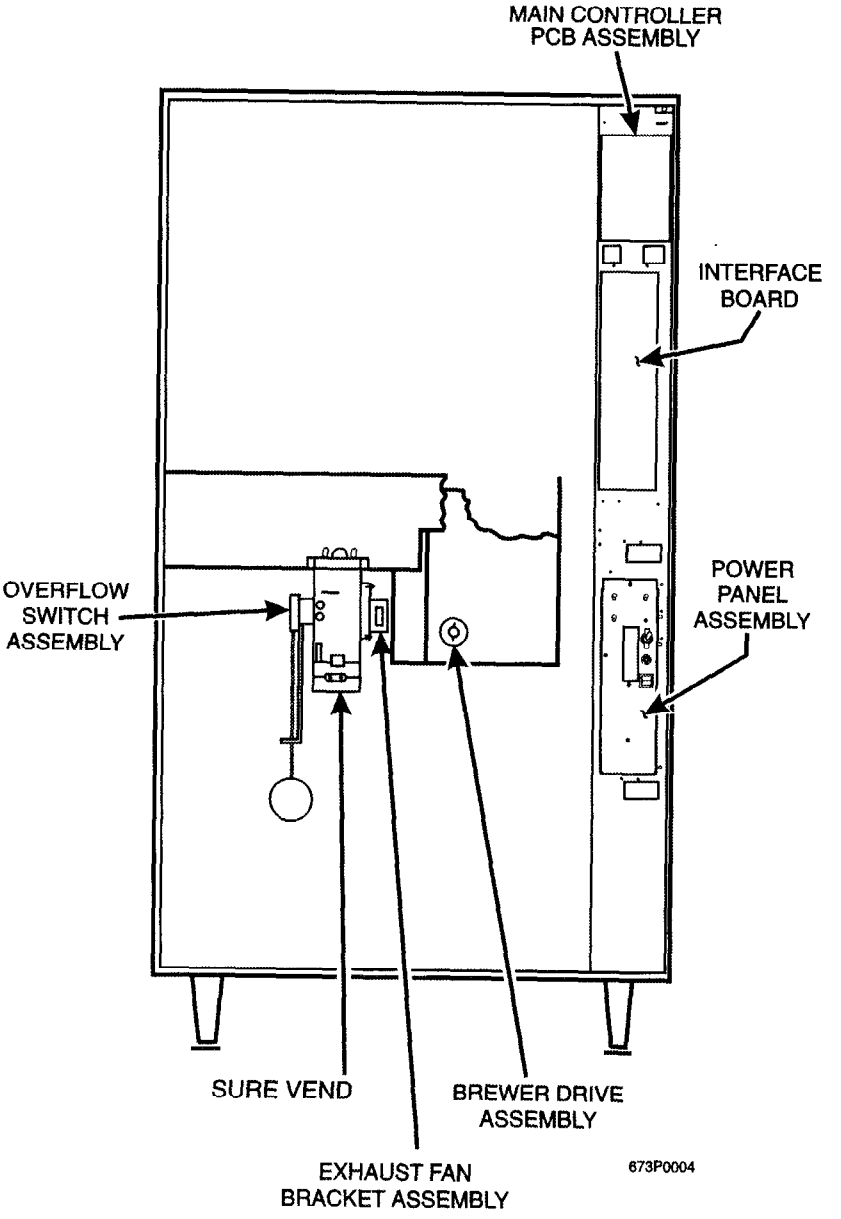
CONVENTIONAL DOOR SHOWN

Home

Door Assembly - Interior



Cabinet Assembly Interior - Part 1



Cabinet Assembly Interior - Part 2

CONTROLS AND INDICATORS

POWER PANEL. You may have one of three power panels, depending upon where you live. The controls are fundamentally the same, however.

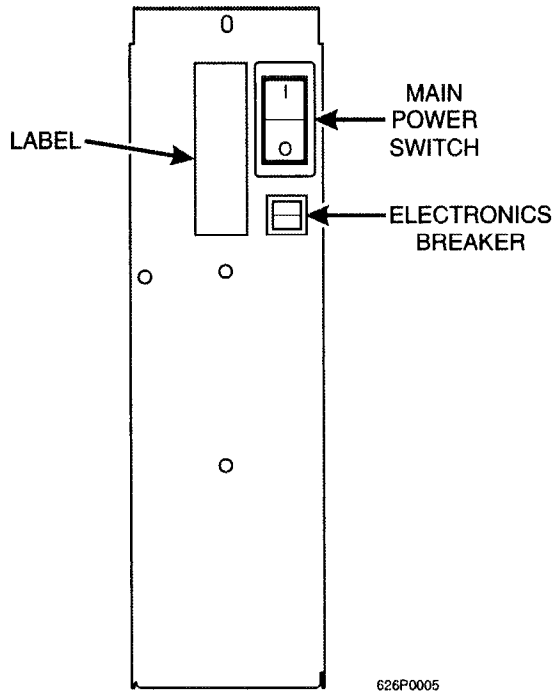
Circuit Breakers and Fuses. Circuit breakers and fuses protect the merchandiser against failures in the power supply or any of the electrical components. If a circuit breaker trips and cannot be reset, or if a fuse repeatedly blows, contact a field service representative.

Back Side of U.S./ Canada Power Control Panel. The circuit board mounted on the rear of the U.S. and Canadian power control panel is a dc power supply for the coin mechanism. A fuse protects the board circuitry in the event of a coin mechanism solenoid failure. If the coin mechanism is not working, check this fuse. If the fuse is blown, a bad coin mechanism solenoid could be at fault.

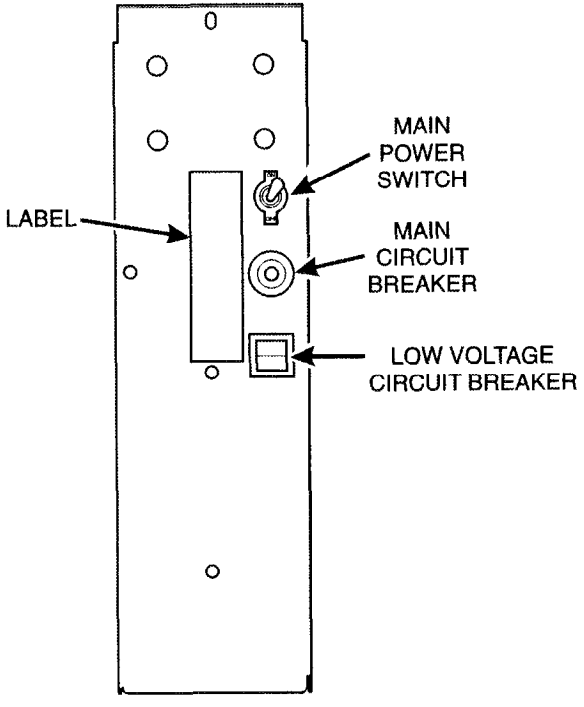
Main Power Switch. This is the main ON/OFF switch for the merchandiser.

WARNING

To protect against electrical shocks and possible damage to the machine, turn this switch OFF when performing any maintenance on the merchandiser.

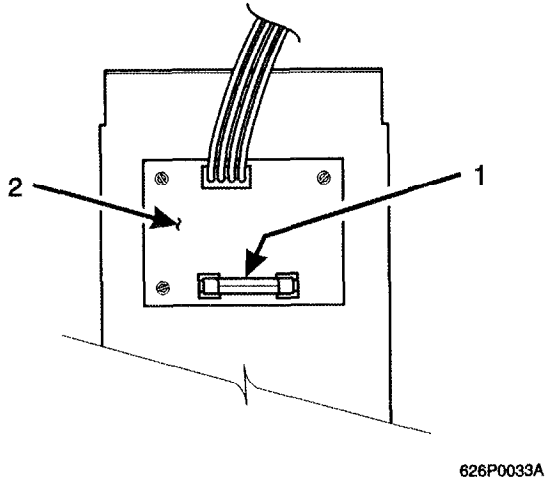


Power Control Panel (France/Germany/Spain)

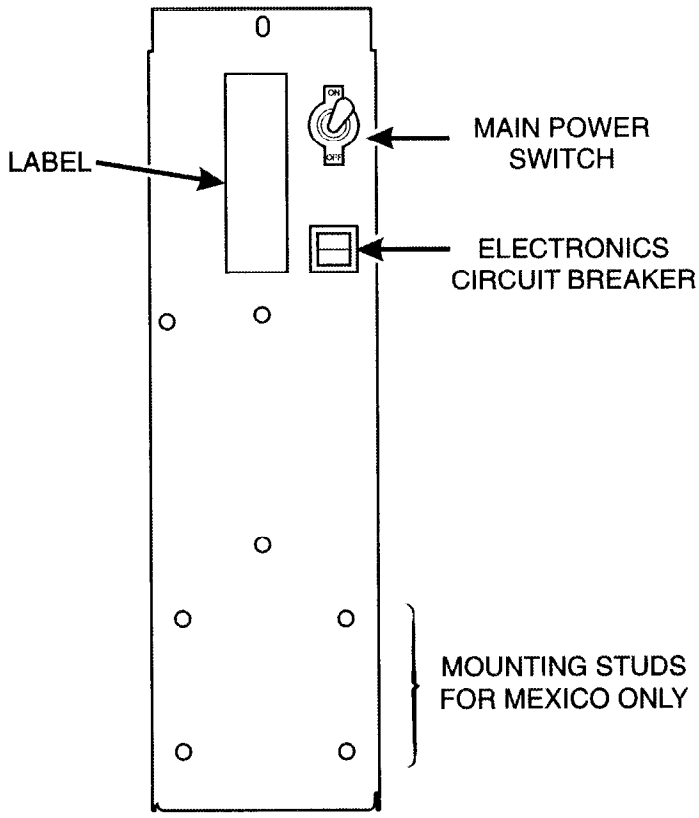


Power Control Panel (U.S./Canada)

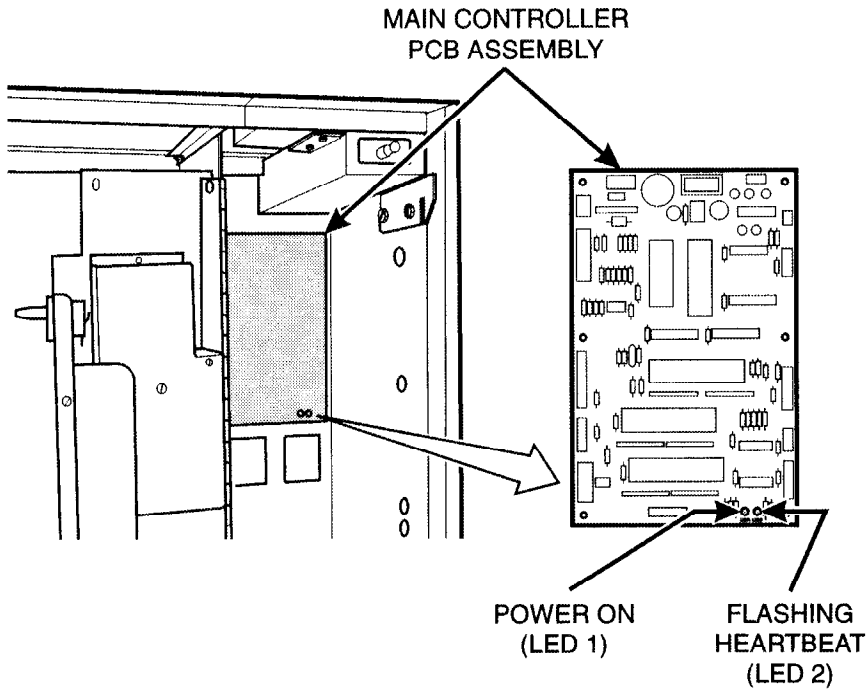
Home



Back Side of U.S./Canada Power Panel



Power Control Panel (U.K./Mexico)



Main Controller PCB Display

Main Controller PCB Display. This display consists of two light emitting diodes (LED) mounted on the controller PCB.

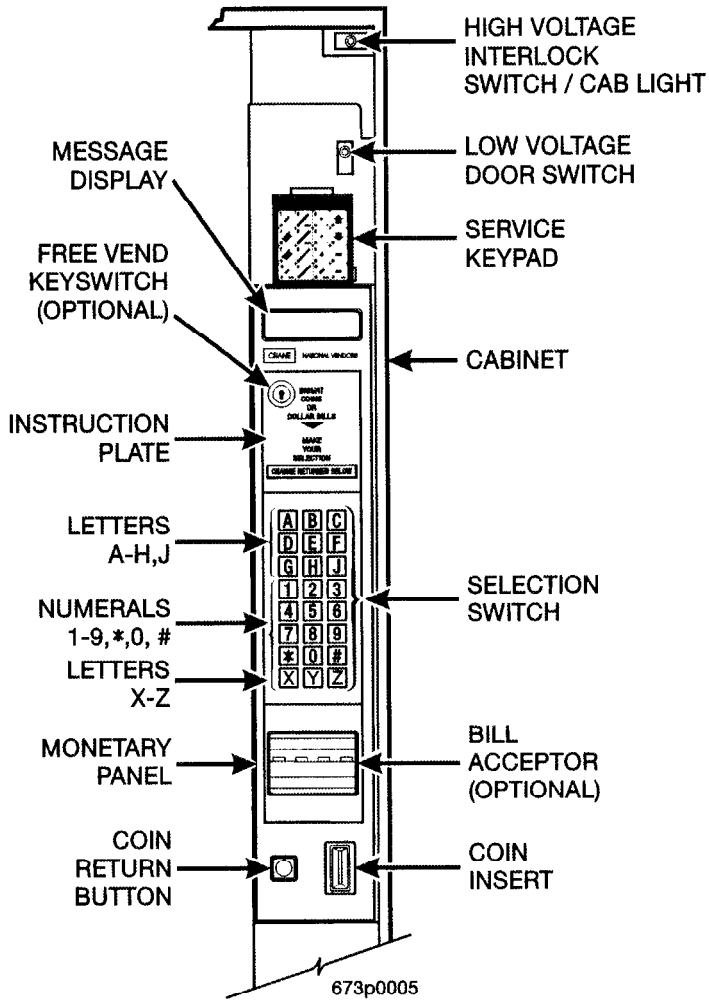
POWER ON (LED 1)	When lit, this red LED indicates electrical power is applied to the controller PCB.
HEARTBEAT (LED 2)	When flashing, this red LED indicates that the controller PCB is active, and the software is operating.

NORMAL CONDITIONS:

When the merchandiser is operating normally, you should see a steady red **POWER ON** indicator. The red **HEARTBEAT** indicator should be flashing with a balanced on/off pattern (on for the same length of time that it is off).

ERROR CONDITIONS:

If an error is present, the red **HEARTBEAT** indicator will flash with an unbalanced on/off pattern (on longer than it is off). The error(s) can be viewed under the DIAGNOSTICS mode.



Monetary Panel

High Voltage Interlock Switch (U.S./ Canada). When the cabinet door is open, this switch turns off the optional fan and bean light (if so equipped) and turns on the service light.

High Voltage Interlock Switch (International). When the cabinet door is open, this switch turns off all high voltage to the cabinet. Pulling the switch out restores high voltage for maintenance purposes.

Low Voltage Door Switch. Informs the controller software of the main door open or closed status.

Message Display. This is how the merchandiser communicates with the outside world. Customers can see messages about how much money they have put into the merchandiser. The message display also tells customers when a selection is sold out and when vending is free, inhibited, or discounted. The message display shows you what you are doing when you program the merchandiser, and can show you what is wrong if there is a failure.

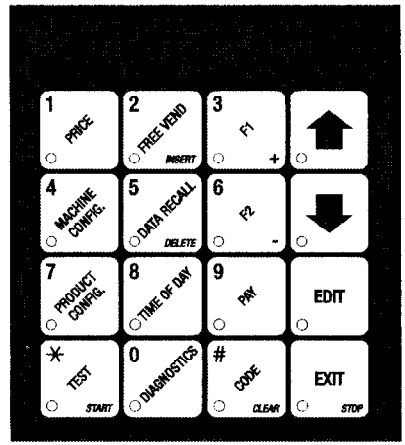
Free Vend Keyswitch. This allows someone (other than maintenance people) to set the merchandiser to free vend without opening the door.

Selection Switch Panel. The customer uses these switches to make selections. Also, maintenance people may use this switch panel during programming and other support modes.

Coin Return Button. Pressing this button returns any coins that have been paid into the merchandiser prior to a vend.

Bill Acceptor (Optional). Accepts bills in various denominations, depending upon the type of bill validator, and how the machine is configured.

Service Keypad. The service keypad is located at the top of the monetary panel. It gives service personnel the means to program, retrieve data from, and view diagnostic information about, the merchandiser.



Service Keypad

INITIAL SET-UP

I. Location Preparation

After your machine is unpacked and placed near its permanent location, you need to make sure you have the proper electrical and water service.

This merchandiser needs electrical power as shown in the following table.
NOTE: Each merchandiser should have its own electrical circuit.

Power Requirements

Country	Volts	Frequency (Hz)	Current (Amps)
Canada	115	60	16
France	230	50	10
Germany	230	50	10
United Kingdom	230	50	10
United States	115	60	16

This merchandiser is supplied with a service cord for the country of use and is terminated in a grounding type plug. The wall receptacle used for this merchandiser must be properly polarized, grounded, and of the correct voltage. Operating the merchandiser from a source of low voltage will VOID YOUR WARRANTY. Each merchandiser should have its own electrical circuit and that circuit should be protected with a circuit breaker or fuse conforming to local regulations.

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Voltage Check - Place the leads of a voltmeter across the LINE (LIVE) and NEUTRAL terminals of the wall receptacle. The voltmeter should indicate 110-130 volts ac for 120 volt, 60 Hz locations, or 220-240 volts ac for 230 volt, 50 Hz locations.

Polarity Check - Place the leads of a voltmeter across the LINE (LIVE) and GROUND terminals of the wall receptacle. The voltmeter should indicate 110-130 volts ac for 120 volt, 60 Hz locations, or 220-240 volts ac for 230 volt, 50 Hz locations.

Noise Potential Check - Place the leads of a voltmeter across the NEUTRAL and GROUND terminals of the wall receptacle. The voltmeter should indicate 0 volts ac. A measurement greater than 1.5-2.0 volts ac could result in problems for the merchandiser's electronic circuitry caused by electrical noise.

Any deviation from these requirements could result in unreliable performance from your merchandiser.

Water Requirements

The best type of water for coffee brewing is normal hard (tap) water. If your location has chemically softened water, you should do one of the following things:

- Have a non-softened supply line run to the merchandiser
- Contact your local water filter supplier for information and suggestions

Well water can also be used in the Hot Drink Center. However, you should have it checked for levels of carbonates and alkalies. Contact your water filter supplier if these values are relatively high.

What is the Water Pressure at Your Location?

It should be no less than:	**10 psi (69.0 KPa) at 1/2 gallon/minute**
And no more than:	**80 psi (522.0 KPa) at 1/2 gallon/minute**

If you're not sure about the pressure and flow rate, check with your water company.

What to do With the Water Supply Line:

- Locate the supply line at the rear of your merchandiser.
- Equip the line with a shut-off valve.

Flush the water supply line before connecting it to the merchandiser. A minimum of five gallons is usually required before connecting the merchandiser to the supply line. **DO NOT** flush the merchandiser water system. If you do, you might introduce water line contaminants into the merchandiser.

Home

II. Positioning the Merchandiser

You can position this merchandiser anywhere in a bank of machines. It can even be placed on the end flush against a side wall. Be sure you leave enough room in front of the merchandiser for the door to move freely.

BE SURE THE REAR OF THE MERCHANDISER IS AT LEAST 6 INCHES (15 cm) AWAY FROM THE WALL. THIS WILL ALLOW WARM MOIST AIR TO BE VENTED OUT OF THE MACHINE'S INTERIOR.

WARNING

THIS MACHINE IS ONLY RATED FOR INSTALLATION IN AN INDOOR LOCATION.

III. Connecting Everything

1. Connect the Merchandiser to the Water Supply:

a. You will need the following:

- A coil of copper tubing with outside diameter of 3/8 inch (9.5 mm) or greater. The appropriate plastic tubing may be substituted. The tubing must be long enough to reach from the water source to your machine with enough left over to form a loop about 2 feet (60 cm) in diameter. This will allow you to move the machine without straining the water line.
- A 3/8 inch (9.5 mm) flare fitting.

b. Connect the merchandiser to your water supply.

2. Connect the Merchandiser to the Electrical Power Supply:

Power inside the merchandiser is controlled by the main power switch, located on the power panel.

a. Make sure the main power switch is OFF.
b. Connect the merchandiser's power cord to your wall outlet.

IV. Final Mechanical Preparation

1. Level the Merchandiser:

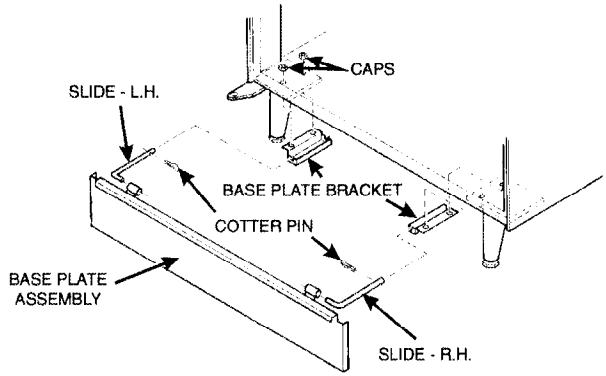
a. Using a spirit level, adjust the front and rear leg levelers until the machine is level from side to side and back to front.

2. Mount the Base Plate:

WARNING

DO NOT MOVE THE CABINET WHILE HEX HEAD SCREWS AND/OR CARRIAGE BOLTS ARE LOOSENED. THE CABINET WOULD BECOME UNSTABLE AND LIKELY TO TIP AND CAUSE INJURY.

a. Remove the pail(s) from the inside of the merchandiser.
b. Remove the floor liner from the inside of the merchandiser.
c. Remove the two caps as shown.
d. Loosen the left leg assembly carriage bolts and nuts to allow mounting a base plate bracket.
e. Secure one of the base plate brackets to the leg assembly using the two carriage bolt. Tighten the carriage bolts and nuts.
f. Loosen the right leg assembly hex head screws to allow mounting the other base plate bracket.
g. Secure the other base plate bracket to the right leg assembly using the two hex head screws. Tighten the hex head screws.
h. Insert the short arms of the slides into the hinged tabs of the base plate. Position the slide so the notch near the short arm is on the bottom side.
i. Insert the long arms of the slides into the base plate brackets.
j. Insert and secure a cotter pin through the hole in the back of each of the slides.
k. Push the base plate toward the merchandiser cabinet.



The front tabs of the base plate brackets should seat in the notches in the long arms of the slides.

l. Replace the caps, liner, and pail(s) removed previously.

3. Set Up the Menu Assembly

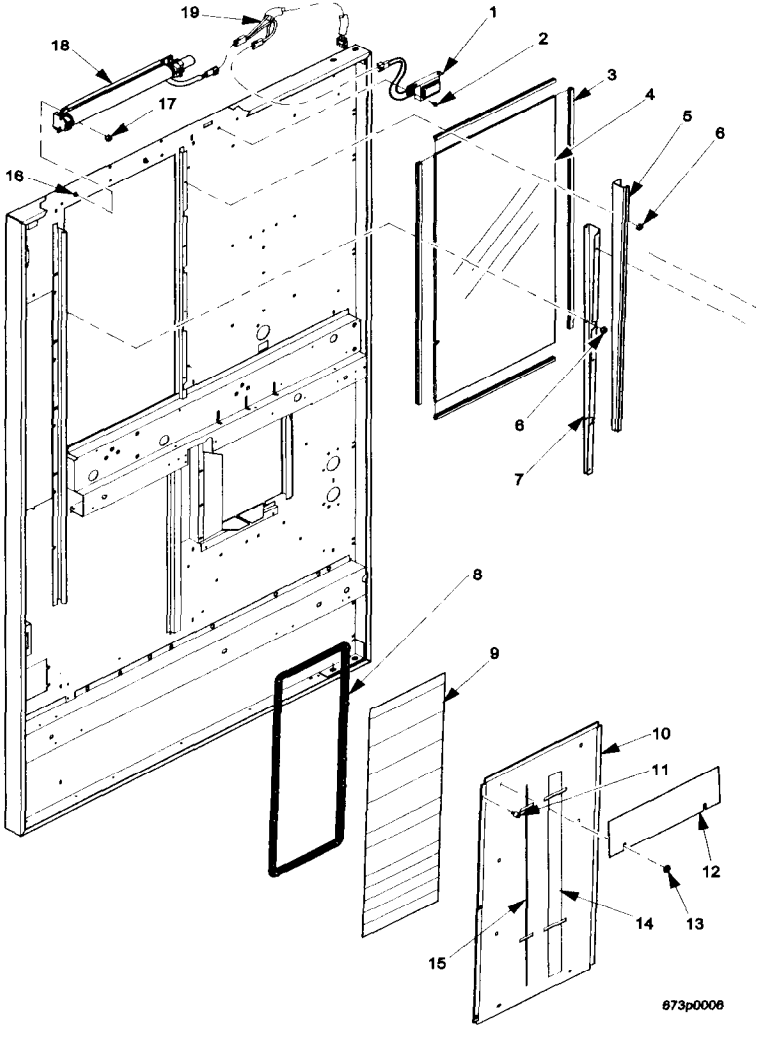
Glass door:

a. Swivel the cup turrets away from the door.

b. Remove the thumb screws as shown, and slide out the menu assembly.

c. Install selection inserts as shown.

d. Reinstall the menu assembly in the reverse order of assembly.



Home

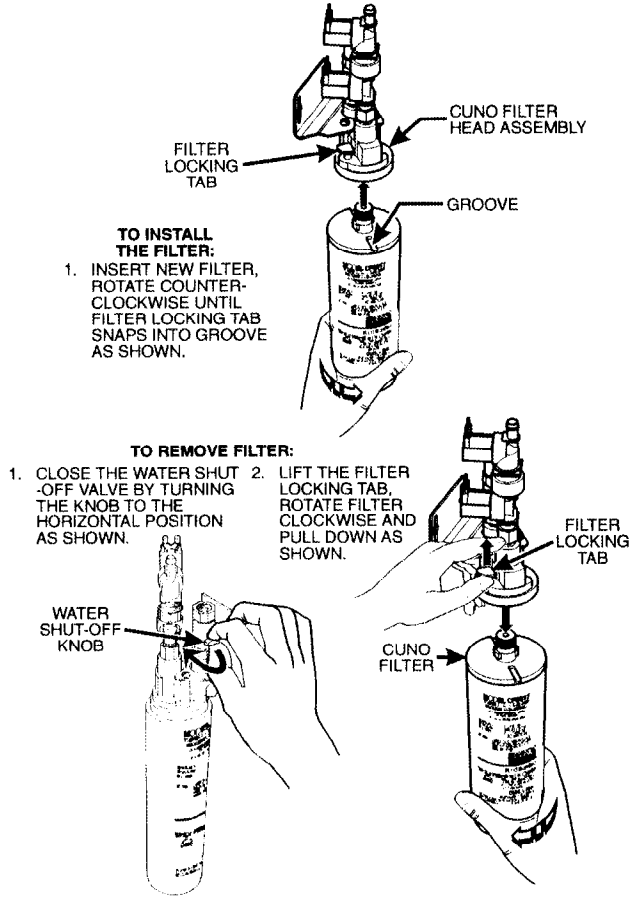
4. Install the Water Filter Cartridge:

IF YOUR MERCHANDISER HAS THE WATER FILTER OPTION, IT CANNOT BE OPERATED WITHOUT A PROPERLY INSTALLED WATER FILTER CARTRIDGE. If you do not have the water filter option, continue with "Fill the Tank".

CUNO BRAND ...

NOTE

Check the water filter installation record. There is a place to write the vend number on the cartridge. The cartridge is effective for a maximum of 64,000 7 oz. vends, 56,000 8 oz. vends, 50,000 9 oz. vends, or 37,000 12 oz. vends. Local conditions may require more frequent replacement.


CUNO FILTER HEAD ASSEMBLY
FILTER LOCKING TAB
GROOVE
TO INSTALL THE FILTER:
1. INSERT NEW FILTER, ROTATE COUNTER-CLOCKWISE UNTIL FILTER LOCKING TAB SNAPS INTO GROOVE AS SHOWN.
TO REMOVE FILTER:
1. CLOSE THE WATER SHUT-OFF VALVE BY TURNING THE KNOB TO THE HORIZONTAL POSITION AS SHOWN.
2. LIFT THE FILTER LOCKING TAB, ROTATE FILTER CLOCKWISE AND PULL DOWN AS SHOWN.
WATER SHUT-OFF KNOB
FILTER LOCKING TAB
CUNO FILTER

Home

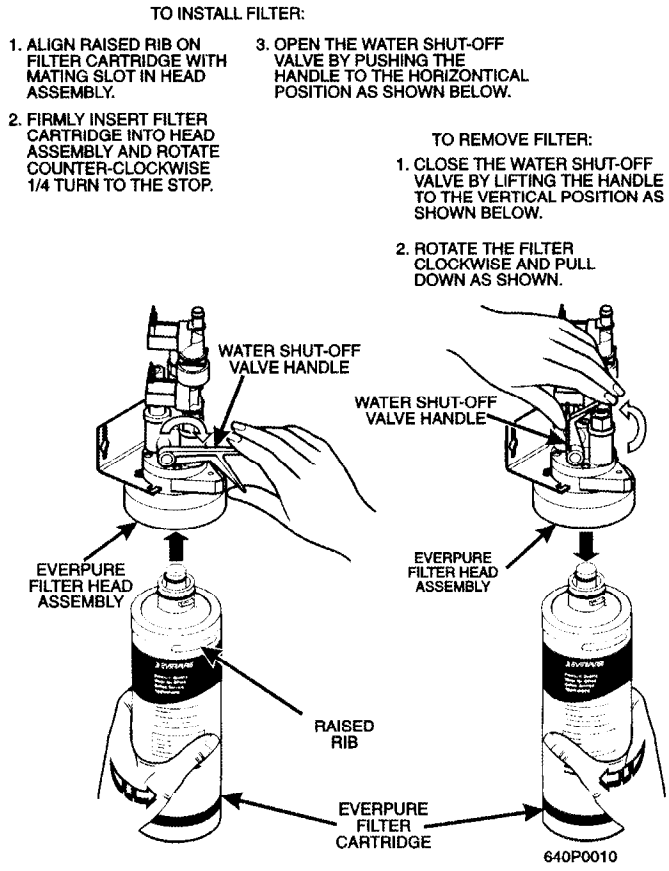
EVERPURE BRAND ...

NOTE

Check the water filter installation record. There is a place to write the vend number on the cartridge. The cartridge is effective for a maximum of 26,000 7 oz. vends, 22,000 8 oz. vends, 20,000 9 oz. vends, or 15,000 12 oz. vends. Local conditions may require more frequent replacement.

National Vendors recommends that you do the following procedure the **first** time you fill the tank in your merchandiser:

a. Remove the small inner "O" ring from the filter cartridge.
b. Install the filter cartridge.
c. Turn on the water at its source, and perform the tank filling procedure.
d. Turn off the water at its source, remove the filter cartridge, and replace the "O" ring.
e. Install the filter cartridge.


TO INSTALL FILTER:
1. ALIGN RAISED RIB ON FILTER CARTRIDGE WITH MATING SLOT IN HEAD ASSEMBLY.
2. FIRMLY INSERT FILTER CARTRIDGE INTO HEAD ASSEMBLY AND ROTATE COUNTER-CLOCKWISE 1/4 TURN TO THE STOP.
3. OPEN THE WATER SHUT-OFF VALVE BY PUSHING THE HANDLE TO THE HORIZONTICAL POSITION AS SHOWN BELOW.
TO REMOVE FILTER:
1. CLOSE THE WATER SHUT-OFF VALVE BY LIFTING THE HANDLE TO THE VERTICAL POSITION AS SHOWN BELOW.
2. ROTATE THE FILTER CLOCKWISE AND PULL DOWN AS SHOWN.
WATER SHUT-OFF VALVE HANDLE
WATER SHUT-OFF VALVE HANDLE
EVERPURE FILTER HEAD ASSEMBLY
EVERPURE FILTER HEAD ASSEMBLY
RAISED RIB
EVERPURE FILTER CARTRIDGE
640P0010

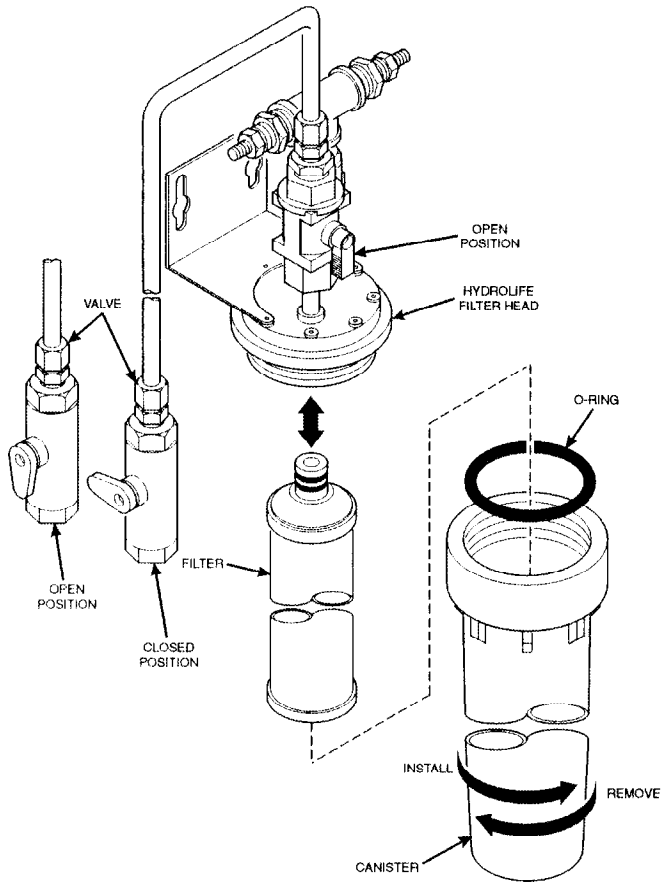
HYDROLIFE BRAND...

INSTALLATION:

1. Place the filter inside the canister. Be sure the o-ring is seated in the canister just below the threads.
2. Screw the canister and filter assembly onto the filter head until it comes to a stop.
3. Open the water valve on the inlet line by rotating the handle to the vertical position as shown.

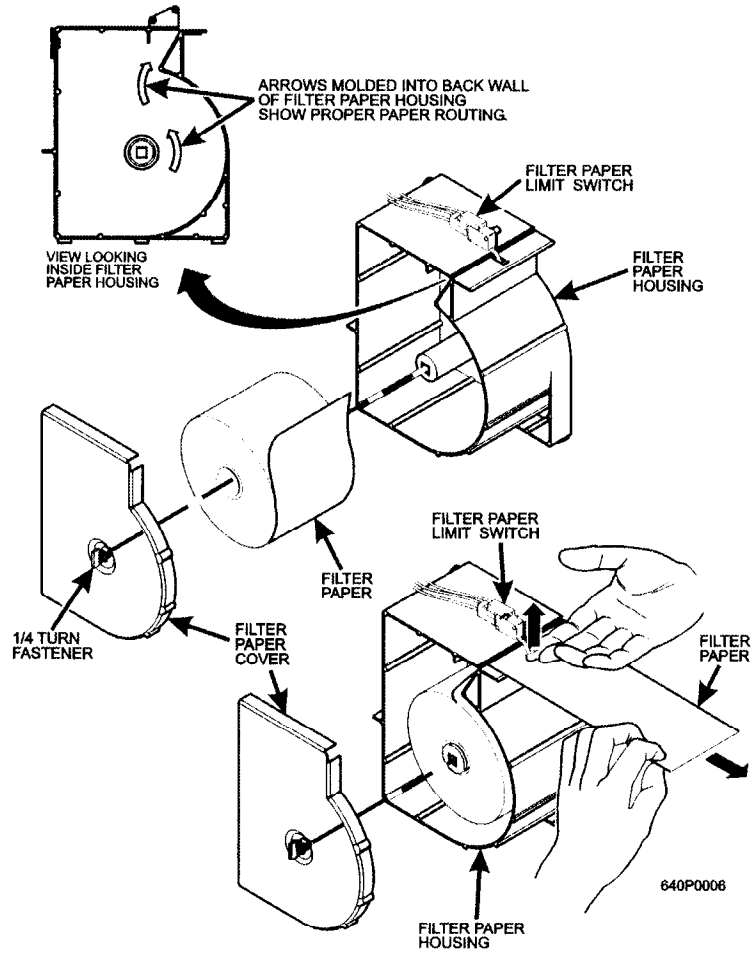
REMOVAL

4. Close the valve on the inlet line by rotating the handle into the horizontal position as shown.
5. Relieve water pressure by performing two or three water throws (see the ***Programming Guide***).
6. Unscrew the filter and canister assembly from the filter head. Remove the filter from the canister.



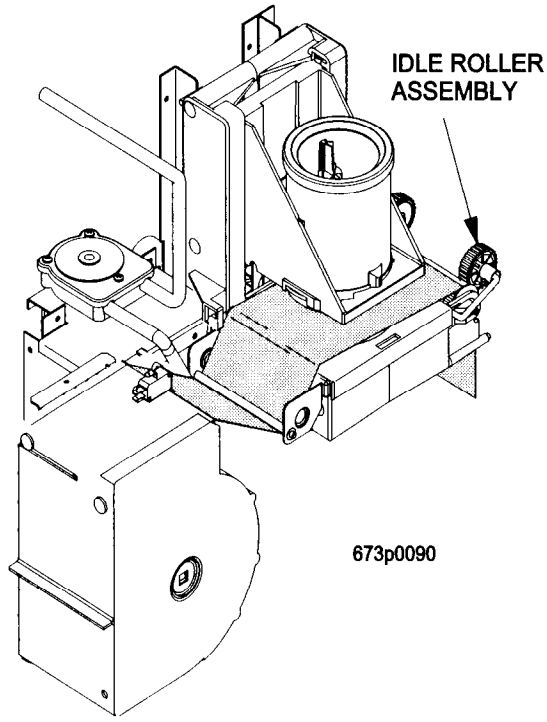
5. Load the Optional Filter Paper:

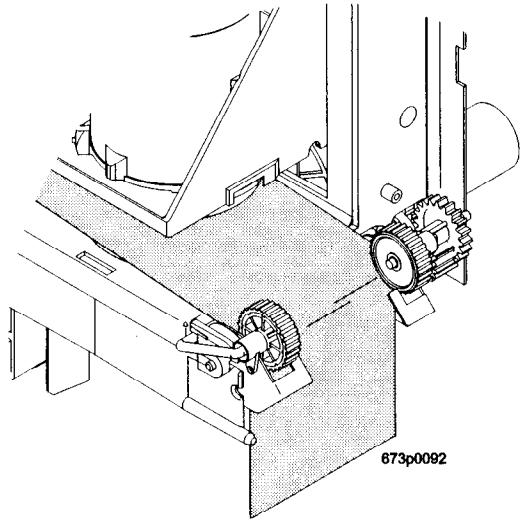
a. Turn the fastener 1/4 turn counterclockwise and remove the filter paper cover.
b. Insert filter paper in the filter paper housing as shown.
c. Feed the paper out of the housing as shown by the arrows molded into the back wall of the filter paper housing.


ARROWS MOLDED INTO BACK WALL OF FILTER PAPER HOUSING SHOW PROPER PAPER ROUTING.
VIEW LOOKING INSIDE FILTER PAPER HOUSING
FILTER PAPER LIMIT SWITCH
FILTER PAPER HOUSING
FILTER PAPER
1/4 TURN FASTENER
FILTER PAPER COVER
FILTER PAPER LIMIT SWITCH
FILTER PAPER
FILTER PAPER HOUSING
640P0006

d. Lift up the limit switch and feed the paper past it as shown. Release the limit switch.
e. Replace the cover.

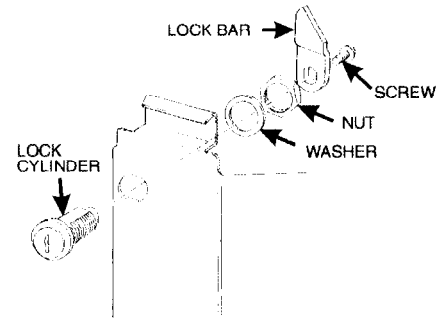
f. Refer to routing label on filter paper cover. Feed paper under paper guide shaft and over rounded edge of stainless steel brackets as shown.
g. Lift and rotate the idler roller assembly up.
h. Route the paper under the brewer cylinder and the idler rollers.
i. Release the idler roller assembly, capturing the filter paper.
j. Route the paper into the grounds bucket.





6. Install the Optional Coin Box Lock

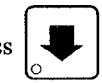
a. Install the lock cylinder, washer, and nut in the order shown.
b. Tighten the nut.
c. Install the lock bar as shown, and secure with the screw.



7. Load the Coin Mechanism

a. Open the cabinet door and the monetary door.
b. Insert coins into their respective tubes until each tube has been filled.
c. Inspect the tubes for shingled coins and correct if necessary.

8. Fill the Tank:

a. Make sure the main power switch is ON.
b. Turn on the water at its source.
c. On the maintenance keypad, press , then press  until the display shows TANK.FILL.
d. Press . You should hear water running into the tank, and the display will show FILLING. The water will run until either the tank is full or 12 minutes go by, whichever happens first.

NOTE

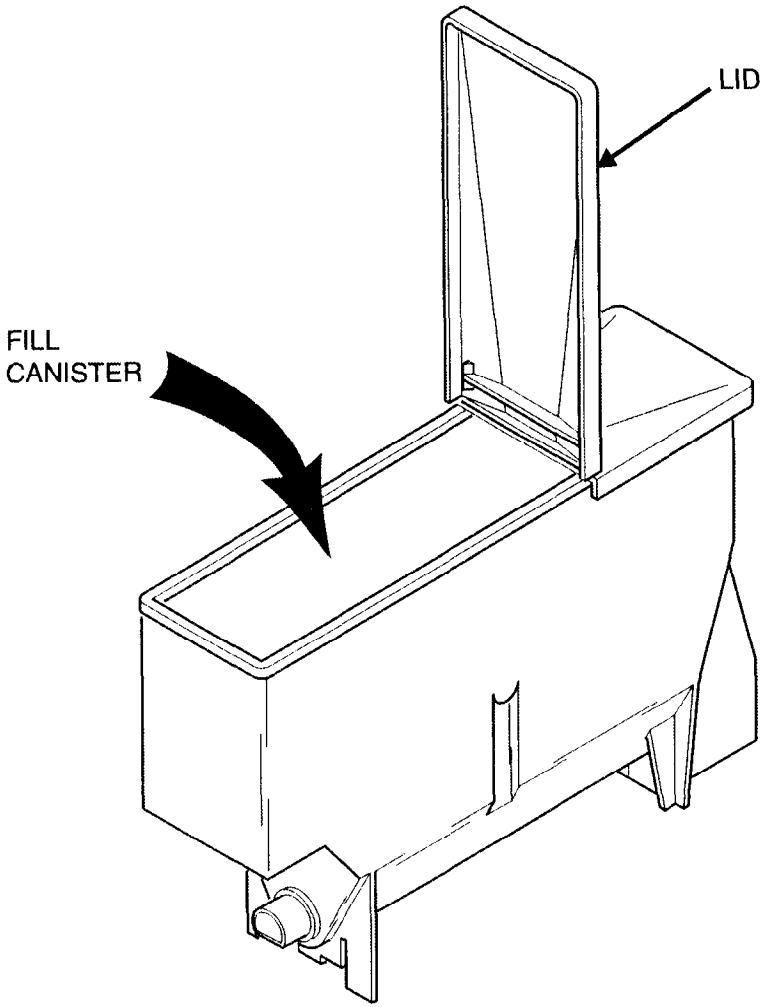
The inlet water valve only stays open for 12 minutes at a time. This is a safety feature to prevent water from running into a leaky system and making a mess. It is possible for your tank to take longer than 12 minutes to fill if your location has low water pressure. To be on the safe side, check for leaks if the water runs a long time. If you find none, everything is normal; you just have low water pressure.

e. When you hear the water stop running, repeat steps 3 and 4. Under normal circumstances, nothing will happen. If water starts running and the display shows FILLING again, your pressure is low and it is just taking a long time to fill the tank. Repeat this step if necessary to be sure your water tank is full.

Home

9. Fill the Canisters:

a. Open the lid as shown, and carefully pour the appropriate product into the canister. Repeat for all canisters in the machine.



Home

10. Load Cups:

CAUTION

Use only cups which have been designed for use in a hot beverage vending machine.

a. Support the cup mechanism in the upright position.
b. Push the latch forward to release the cup mechanism. Continue to support the cup mechanism while you lower it into the loading position.
c. Remove the turret cover.

OBSERVE PROPER HYGIENE - DO NOT TOUCH THE CUPS!

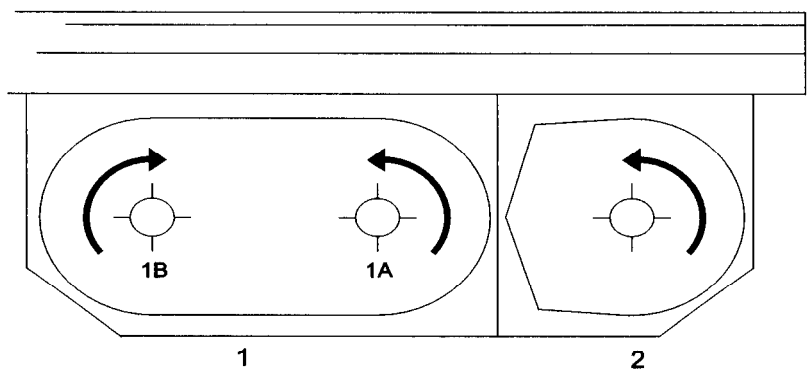
d. Open the bottom of the wrapper on a stack of cups.
e. Insert the wrapped cups into the turret and pull the wrapper out.

DO NOT FILL CUPS ABOVE THE LEVEL MARKED ON THE OUTSIDE OF THE CUP TURRETS OR ABOVE THE "FILL LINE" LABEL INSIDE EACH TURRET, OR MOTOR JAMS WILL OCCUR.

USE ONLY THE SAME SIZE AND BRAND OF HOT DRINK CUPS IN EACH TURRET; DO NOT INTERMIX!

f. Replace the turret cover after the turrets have been loaded.
g. Be sure the cup mechanism is locked into the upright position.

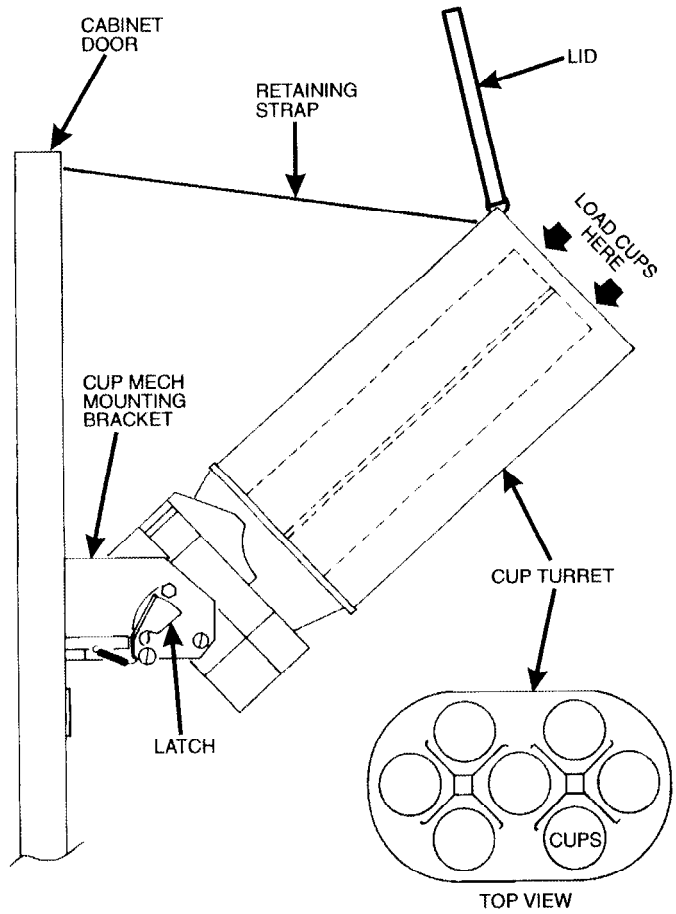
TURRET DESIGNATIONS
CUP STACK ROTATION



673p0007

VIEW LOOKING DOWN

Home



11. Tell the Machine About the Cup Size(s):

Make sure the cup sizes you select agree with the cups you have actually loaded during setup.

a. Press 7 PRODUCT DONE the display shows X. 02 Y. "X" is the currently selected drink size for the cups in turret 2 (normally large cups), "Y" is the currently selected drink size for the cups in turrets 1A and 1B (normally regular cups).

b. Press 1 PRICE to change the #1 cup ring size; press 2 FREE VEND INSERT to change the #2 cup ring size.

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c. Any changes made to the cup sizes must be "locked in". There are two ways to do this:

i. If you are keeping some cup sizes the same, or putting the cups in different cup rings, press and hold [*] . The display momentarily shows CLEARING, two beeps sound, then shows FINISHED. This will reassign the old throw times to the new cup ring, if possible.

ii. If you are loading all different size cups, or want to load all new default times, press and hold [#] . The display momentarily shows CLEARING, two beeps sound, then shows FINISHED. This will reload the factory default times for all cup sizes, clearing any custom throw times you have established. (See the tables on the following pages for the factory default times.)

d. CONTINUE.

12. Test the Machine:

Your Hot Drink Center is now ready to vend coffee, just as soon as the water in the tank reaches its operating temperature. Press [F1], and a reading of the tank temperature is displayed. When the display shows 202° F (94° C), it is ready for vending.

a. Close the door, make a selection, and enjoy your cup of coffee!

b. You will now need to do the following before your machine is ready to start earning money:

- Set prices
- Set up the menu
- Establish time of day vending periods (if desired)
- Customize the drink recipes (if desired)
- Set up custom messages (if desired)

Refer to the ***Programming Guide*** for details on these and other procedures.

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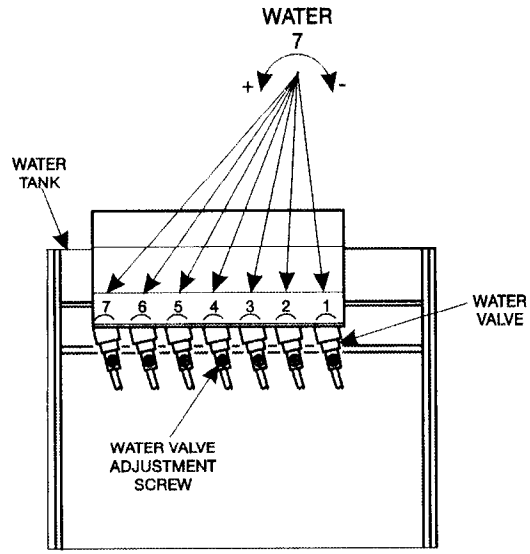
ADJUSTMENTS AND MINOR MAINTENANCE

This section contains procedures not normally used during setup, but may come in handy later on.

I. Water Valve Adjustment

Water valves do not usually require adjustment, but in some cases adequate water volume cannot be achieved by the throw time setting alone (see the ***Programming Guide***). **IF ABSOLUTELY NECESSARY**, adjust the valves in conjunction with setting the factory default timers during the product configuration programming mode.

a. Using a slotted screwdriver, turn the adjustment screw clockwise to decrease the water flow rate.
b. Turn the adjustment screw counterclockwise to increase the water flow rate.

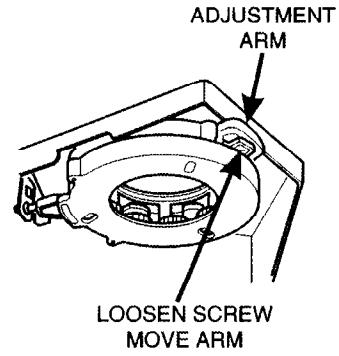


653p0006

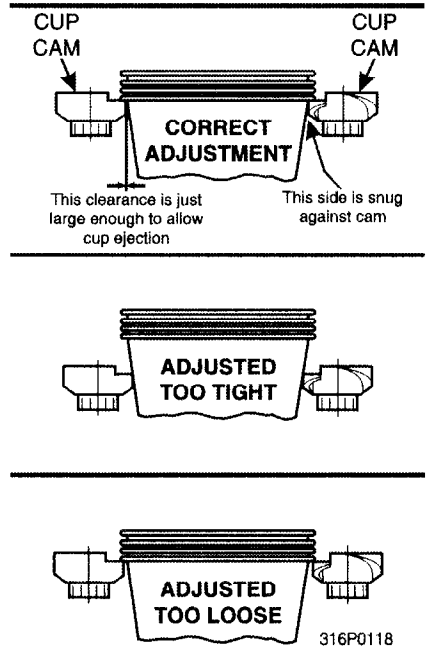
II. Cup Mechanism Adjustment

a. Place seven cups in the cup ring.
b. Observe the clearance as shown in view B.
c. If necessary adjust by first loosening the adjustment arm screw (view A).
d. Move adjustment arm until correct clearance is achieved.
e. Hold adjustment arm in place and tighten adjustment arm screw.

VIEW A



VIEW B



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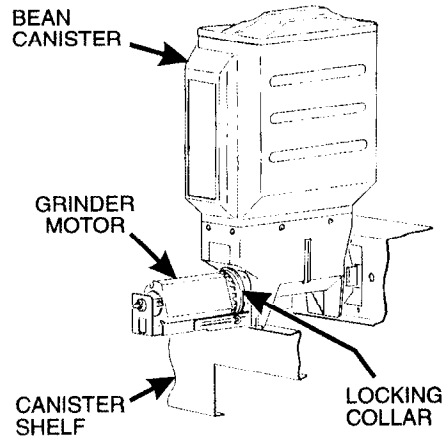
III. Grinder Adjustment

A grind that is within the acceptable range will result in more controlled dispensing of grounds into the brew basket, and better extraction of coffee flavors. A grind that is too coarse results in poor extraction and spraying grounds in the brewer area. A grind that is too fine can overload the grinder motor as well as clog the screens in the brew basket and funnel.

The degree-of-grind scale attached to the grinder motor represents an acceptable range of grinds. Do not set the grinder beyond the limits of this scale.



a. Push the locking collar toward the canister and turn the grinder motor.

b. Turn clockwise for a finer grind and counterclockwise for a coarser grind. A notch on the locking collar indicates the grind on the scale.

CAUTION

Do not turn the grinder motor too far in the clockwise direction. The grinder blades will come into contact and may be damaged.

c. Adjusting the grind may make it necessary to readjust the throw time. Use the factory default times as a starting point and proceed according to the directions in the **"COLLECTING DRY PRODUCT GRAM THROWS"** section of the ***Programming Guide***.

IV. Disengaging the Grinder

At certain times, the bean grinder(s) need to be disengaged from the bean canister(s).

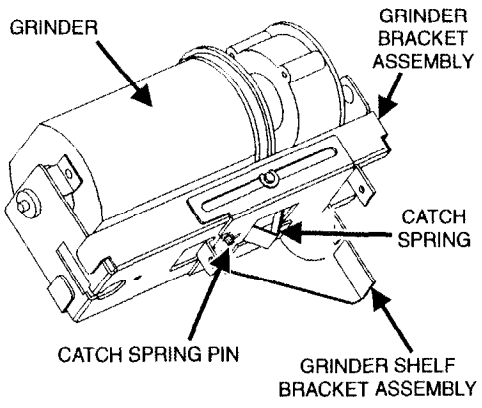
WARNING

Keep your fingers clear of all moving parts.

a. Using a screwdriver handle or other suitable tool, push up on the catch spring far enough to free the catch spring pin from the grinder shelf bracket assembly.

b. Pull the grinder and grinder bracket assembly towards you.

c. Pivot the grinder and grinder bracket assembly down.



d. Re-engage the grinder by pivoting it back up into position.

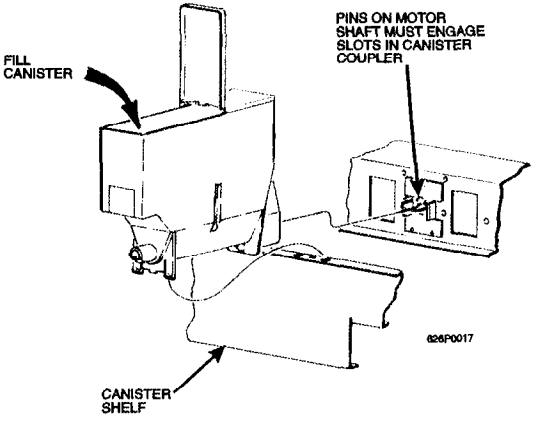
V. Canister Installation

a. Place the canister in position as shown.

b. Engage the pins on the motor shaft with the slots in the canister coupler.

c. Fit tabs on canister into the slots on the canister shelf.

d. To ensure canister is correctly engaged with the rear mounting bracket, gently push down on the front edge of the canister lid.



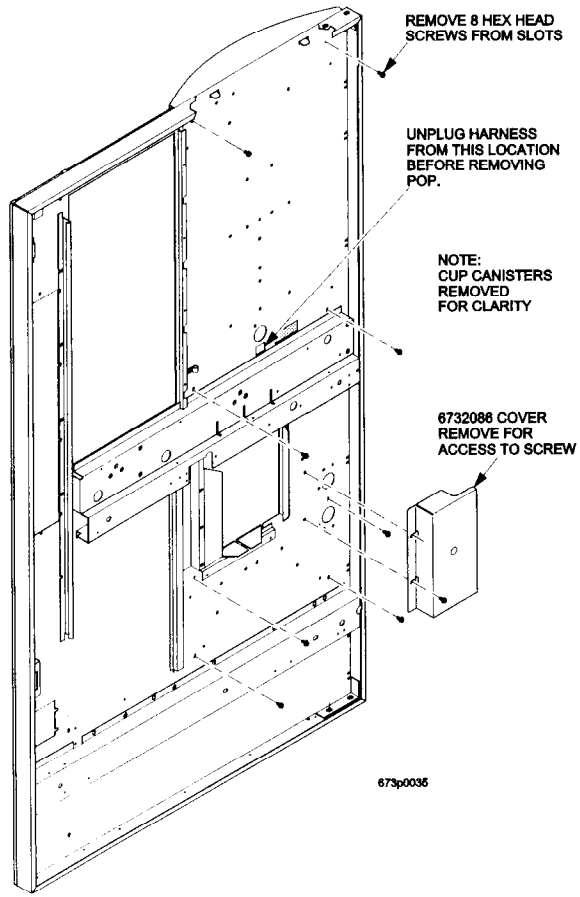
e. **Canister Caps.** The parts bag contains a number of red vinyl caps. Place these caps over the canister nozzle as shown to avoid spilling product when removing and replacing the canisters.

I. Removing POP to Service fluorescent lights, Starters and ballasts

To remove POP to service fluorescent lights, starters and ballasts:

a. From the interior of door, unplug the harness directly below cup/canisters as labeled on door.

b. Remove 8 hex screws that are in slots next to the white dots, from the interior of door as marked in the illustration. (Remove cover to access one of the 8 screws).


REMOVE 8 HEX HEAD SCREWS FROM SLOTS
UNPLUG HARNESS FROM THIS LOCATION BEFORE REMOVING POP.
NOTE: CUP CANISTERS REMOVED FOR CLARITY
6732086 COVER REMOVE FOR ACCESS TO SCREW
673p0035

c. Release the cup canisters so they tip outwards, away from the door, to gain access to the top two screws. The POP will then be hanging by 2 hanger brackets in slots on the top of the door. Remove the POP from the FRONT of the machine by lifting from the cup station opening and the top trim. Lift and pull straight out. This will allow access to change bulbs, starters and ballasts. To reinstall, reverse process.

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SANITATION

I. Basics

INTRODUCTION

Anybody who services vending machines must use proper sanitizing procedures. Health regulations require that hands be clean when cups, commodities, and food-contact parts are handled or serviced.

In addition, Federal and State Health Departments require regular cleaning and sanitizing procedures for food contact parts.

The information in this section will explain how to clean and sanitize the merchandiser on a day to day basis. A clean and well maintained merchandiser will provide a better product and greater safety for your customers.

CLEANING AND SANITIZING -- WHAT'S THE DIFFERENCE?

Clean means "free of visible soil". In cup vending machine servicing, cleaning is also done to maintain product quality and to remove food soils, oils, and mineral stains that could affect product taste, aroma, and appearance.

Sanitizing means the reduction, to safe levels, of the number of disease-causing bacteria that remain on the surface **after** cleaning. Therefore, cleaning and sanitizing are done in separate steps, as prescribed by health regulations and good industry practice.

When you sanitize you create a healthy and hygienic condition. This leads to wholesome food, which in turn leads to satisfied customers.

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SANITIZING IS NO SUBSTITUTE FOR A GOOD CLEANING

HOW DO I SANITIZE?

You can sanitize by using either of these two methods:

Chemicals: The object to be sanitized is treated with a bactericidal compound.

Heat: Raise the temperature of the object high enough to kill bacteria. Water must be at least 170° F.

Hot brew water (if available) is an acceptable sanitizer. When food contact surfaces are washed and/or rinsed, use the hot water available in the machine.

Turn the machine off before using water on the machine.

In either case, the object must be thoroughly clean and completely rinsed in order for the sanitizing process to work. Caked-on soils not removed by cleaning, for example, may shield bacteria from a sanitizing solution.

A GOOD PLACE TO START -- YOUR SANITATION KIT

You need to be sure that each machine is clean, safe, and functioning when you leave it. In order to properly do this, you need to have a complete set of the right tools. In addition to the screwdrivers, pliers, and test equipment necessary to repair a machine, you need to have the tools to clean the machine.

Here is a checklist of the items needed for a good sanitation kit:

- ☐ Sanitation pail
- ☐ Tube and nozzle brushes for food contact surfaces
- ☐ Utility brush for dry spillage around canisters, etc.
- ☐ Disposable towels, wet-strength and lint-free

NOTE

Wiping with towels can recontaminate sanitized food-contact parts. Therefore, towels should not be used to dry food-contact surfaces. Instead, these parts should be air dried.

- ☐ Spray detergent, diluted to desired strength
- ☐ Urn cleaner packets for coffee stains and oils
- ☐ Odor control chemicals for pails
- ☐ Replacement parts (if the exchange method is used)
- ☐ Cabinet polish or window cleaner for the outside of the machine

Feel free to add some items to this list. For example, you may want to use a portable vacuum cleaner.

Home

II. Clean the Hot Water Tank

Some smell and/or taste problems may occur in new machines. Follow this procedure to clean the hot water tank if you experience problems:

1. If the machine is in service, remove power from the machine.
2. Dissolve 1 tablespoon of common baking soda in a cup of water.

WARNING

The water tank may be **HOT**. Be careful when working on the tank.

3. Loosen or remove the hot water tank lid and pour the baking soda solution into the tank.
4. Apply power to the machine.
5. If the tank is not full, fill it.
6. Allow the tank to reach its operating temperature.
7. Leave the solution in the tank for ***AT LEAST*** ½ hour. If possible, leave the solution in the tank for 1 hour.
8. Drain the tank.
9. Refill the tank, then drain again.
10. Refill the tank and put the machine back into service.

III. Sanitation Procedures

Refer to the recommended cleaning and sanitation interval table on the final page of this section. For each item, complete the procedure as outlined here.

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Food-Contact Parts

NOTE

All food-contact parts must be cleaned and sanitized. Air dry, do not wipe dry.

Ingredient Canisters - Empty and wash the canisters, augers, and spouts. Sanitize with hot water and allow to air dry completely before returning to cabinet.

Mixing Bowls - The inside of all mixing bowls can be rinsed by performing the "Bowl Rinse" operation as outlined in the Programming section of this manual.

If needed, remove mixing bowls from the dry ingredient shelf. Wash the mixing bowl lids and sanitize with hot water. Allow to completely air dry before reassembling.

Whipper Lids and Impellers - Remove lids and impellers from the whipper housings, wash the lids and impeller housing. Sanitize with hot water and allow to air dry before reassembling.

Beverage Discharge Nozzles - Disconnect the beverage dispensing tube from the nozzles. Remove the nozzles from the mounting bracket. Remove the cap from the nozzle, wash clean and sanitize the nozzles and cap. Refer to the tubing connection diagram for proper routing.

Brewer and Brewer Funnel - The tubing and brewer may be sanitized by performing the BREW RINSE operation as outlined in the programming section. The machine features an automatic brewer sanitizing feature also described in the programming section.

At times, it may be necessary to wash and sanitize the individual brewer parts. If so, disconnect the tubes from the brewer funnel. Remove the brewer barrel from its support. Remove the brewer funnel assemblies. Thoroughly wash all parts using soap and water. Sanitize by rinsing thoroughly with hot water.

Coffee Chutes - Remove the metal chute(s), wash clean, and sanitize by rinsing with hot water. Air dry before reinstalling.

Condiment Chute Assembly - Remove the condiment chute and cover from the condiment canisters. Thoroughly wash all parts using soap and water. Sanitize by rinsing thoroughly with hot water.Non Food-Contact Parts

Non Food-Contact Parts

Cup Delivery Compartment - Remove the compartment from the merchandiser. Wash clean and rinse with hot water.

Exhaust Fan Filter - Remove the filter from its housing. Wash with soap and water, rinse, wring dry, and replace into housing.

Waste Pail - Empty, wash, and rinse with hot water. Sprinkle detergent powder in the bottom of the pail to help control odors.

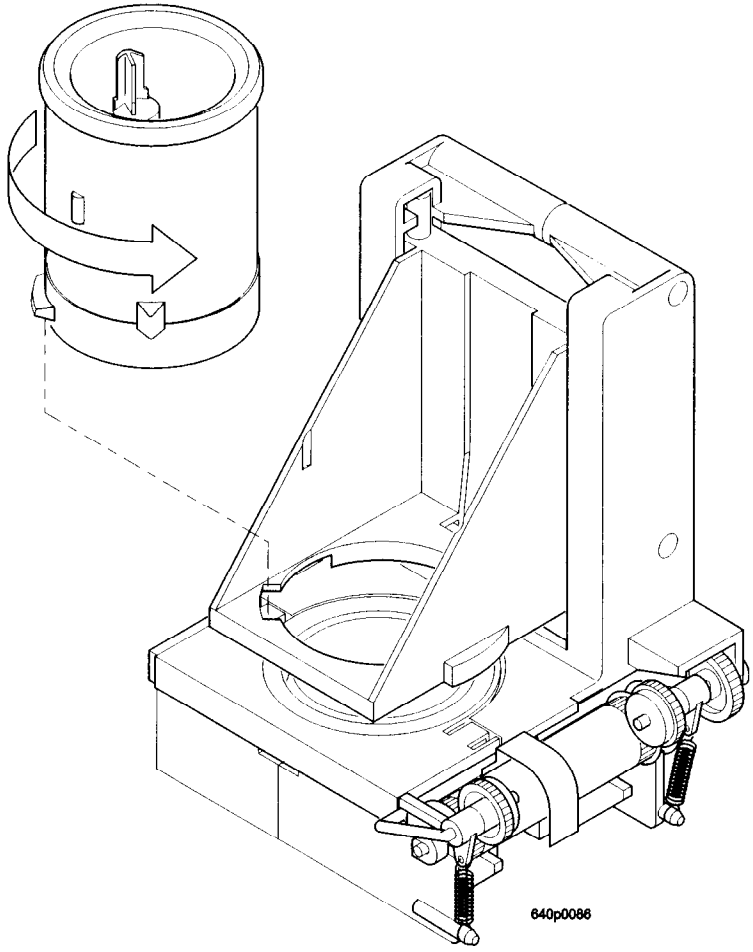
Ingredient Rinse Tray - Remove product canisters. Wash and rinse with hot water. Allow to air dry.

Home

IV. Brewer Cleaning

The brewer has two main parts you can remove: the brew barrel and the funnel screen and seal assembly. You can remove them with the brewer in the machine, or the entire brewer can be removed as one unit.

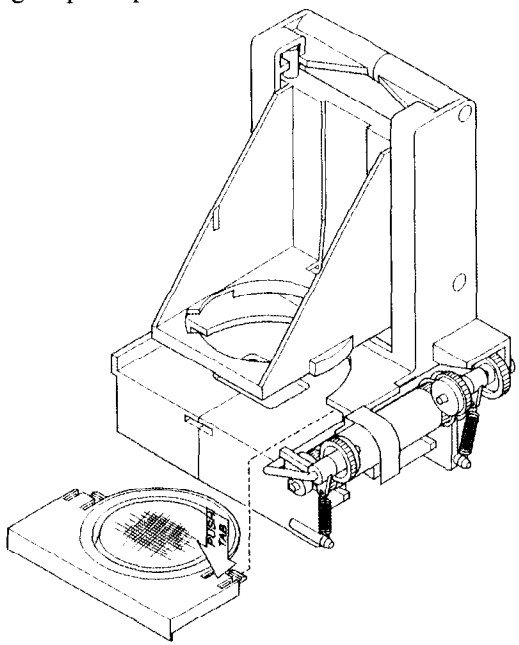
1. On the left side of the brewer, cut off and discard the filter paper (not required for paperless).
2. Grasp the top of the brew barrel, and turn it counter-clockwise ¼ turn to the right as shown. Lift straight up and remove.



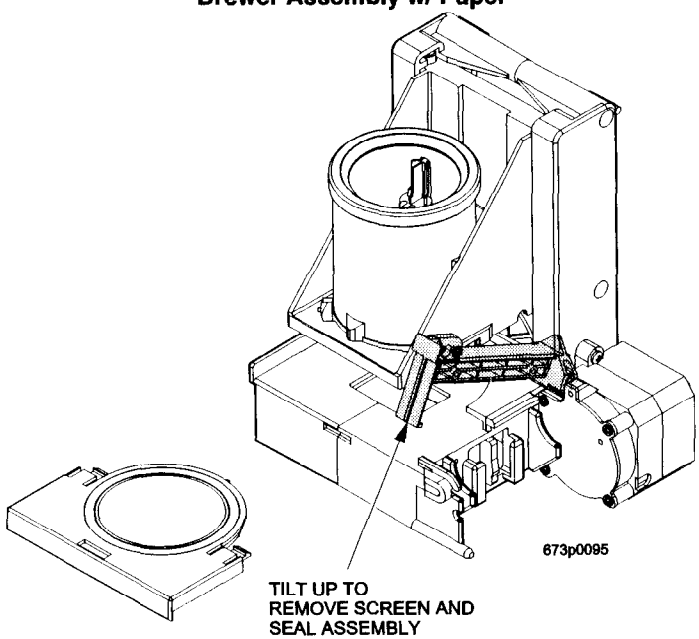
3. Remove the hose from the bottom of the funnel screen and seal assembly.
4. At this point, you can remove the brewer or leave it in the machine.
5. To remove the brewer, tilt the latch down and swivel the brewer up and out.

Home

6. Remove the screen and seal assembly as shown:
   a. Press down on the tabs with your fingers, and slide straight back.
   b. Lift straight up and pull out.

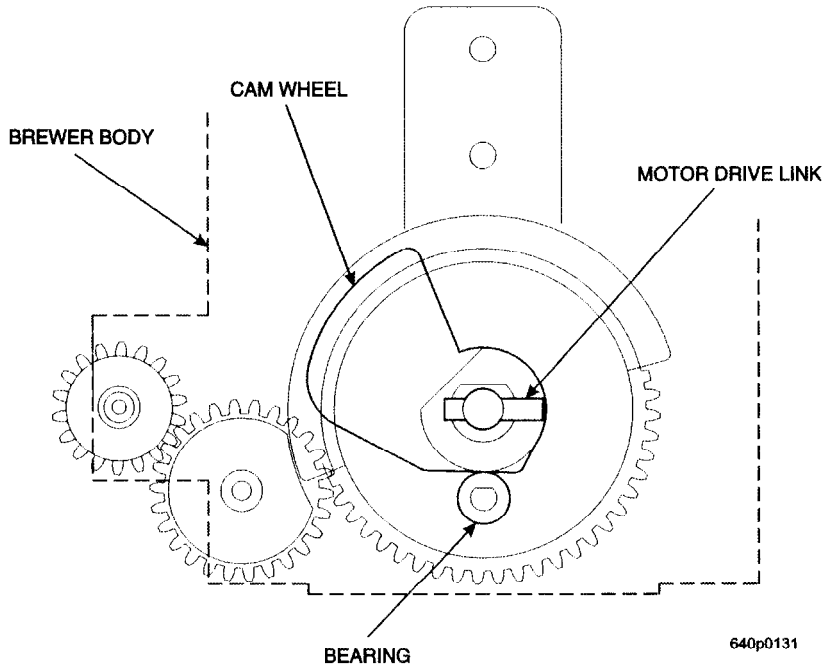


Brewer Assembly w/ Paper



Paperless Brewer Assembly

7. Thoroughly wash all parts using soap and water. Sanitize by rinsing thoroughly with hot water. Air dry, or blow dry with compressed air (if available).
8. If you removed the brewer, make sure the motor drive link is aligned as shown.
   a. If the motor drive link is aligned properly, the flat on the cam wheel will seat on the bearing.



   b. If the motor drive link is not aligned properly, the flat on the cam wheel is turned away from the bearing. You must manually turn the cam wheel to capture the bearing on the flat.
9. Assemble in the reverse order of disassembly. **NOTE:** when replacing the screen and seal assembly, make sure you hear ***TWO CLICKS*** as you push it all the way in.
10. Feed new filter paper through paper guide and brewer as shown, and don't forget to connect the hose(s)!

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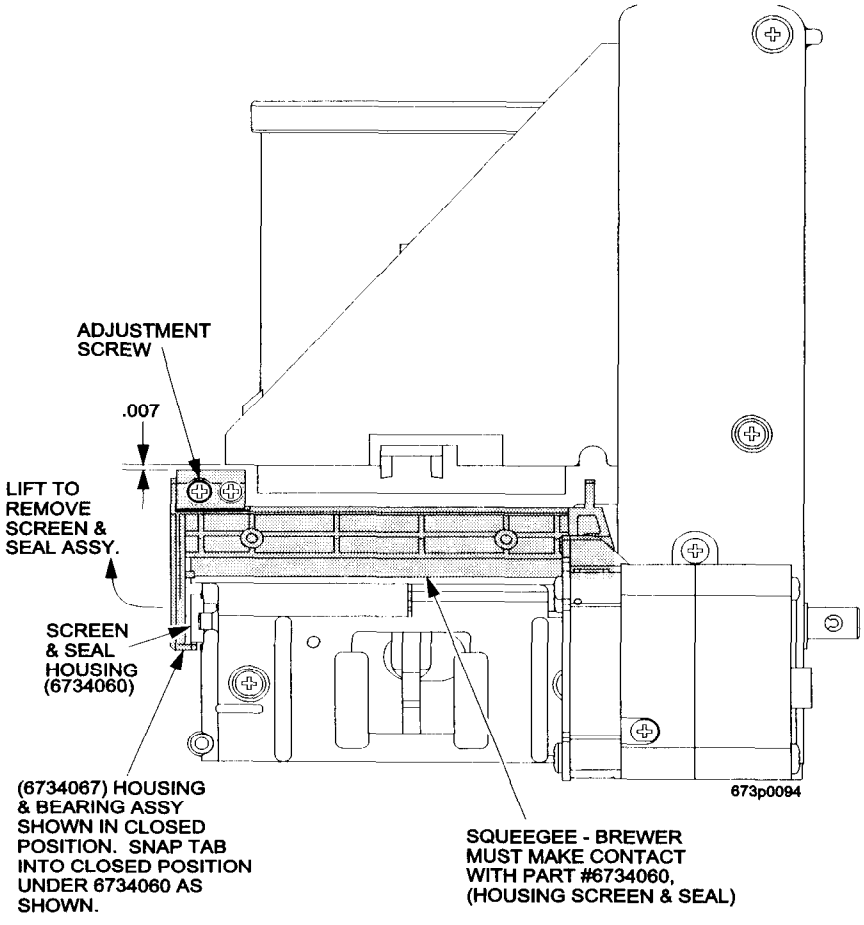
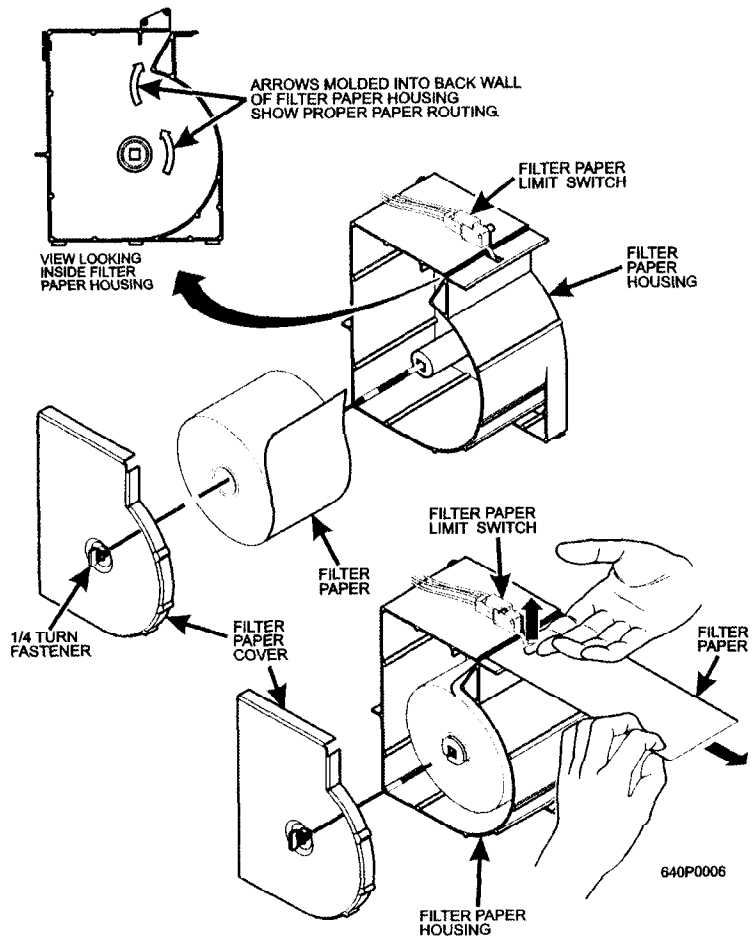
11. Position the Squeegee Assembly as shown in the figure below.


ADJUSTMENT SCREW
.007
LIFT TO REMOVE SCREEN & SEAL ASSY.
SCREEN & SEAL HOUSING (6734060)
(6734067) HOUSING & BEARING ASSY SHOWN IN CLOSED POSITION. SNAP TAB INTO CLOSED POSITION UNDER 6734060 AS SHOWN.
SQUEEGEE - BREWER MUST MAKE CONTACT WITH PART #6734060, (HOUSING SCREEN & SEAL)
673p0094

NOTE: THE SQUEEGE ASSEMBLY MUST BE SEATED CORRECTLY WITH THE PROPER CLEARANCE FROM THE CYLINDER CARRIER (.007") AS SHOWN FOR BEST OPERATION.

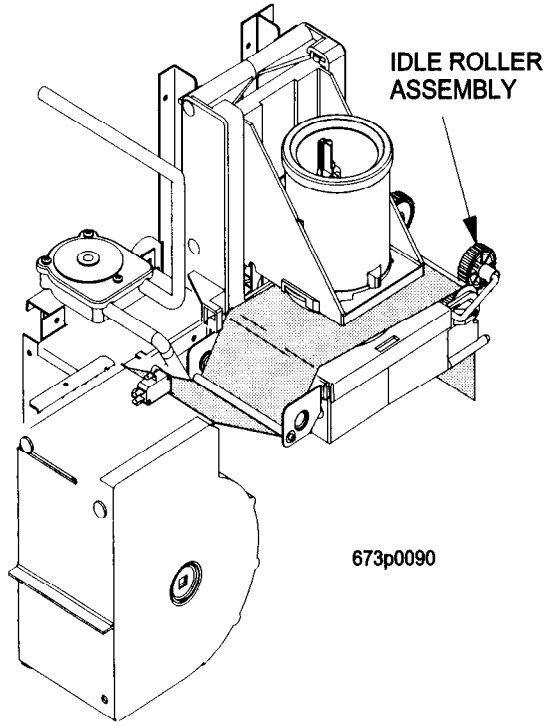
Paperless Brewer Assembly

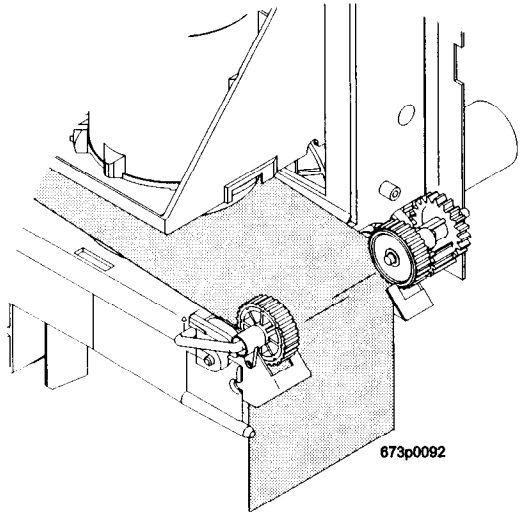
12. Load the Optional Filter Paper:
    a. Turn the fastener 1/4 turn counterclockwise and remove the filter paper cover.
    b. Insert filter paper in the filter paper housing as shown.
    c. Feed the paper out of the housing as shown by the arrows molded into the back wall of the filter paper housing.


ARROWS MOLDED INTO BACK WALL OF FILTER PAPER HOUSING SHOW PROPER PAPER ROUTING.
FILTER PAPER LIMIT SWITCH
VIEW LOOKING INSIDE FILTER PAPER HOUSING
FILTER PAPER HOUSING
FILTER PAPER LIMIT SWITCH
FILTER PAPER
1/4 TURN FASTENER
FILTER PAPER COVER
FILTER PAPER
640P0006
FILTER PAPER HOUSING

    d. Lift up the limit switch and feed the paper past it as shown. Release the limit switch.
    e. Replace the cover.

f. Refer to routing label on filter paper cover. Feed paper under paper guide shaft and over rounded edge of stainless steel brackets as shown.
g. Lift and rotate the idler roller assembly up.
h. Route the paper under the brewer cylinder and the idler rollers.
i. Release the idler roller assembly, capturing the filter paper.
j. Route the paper into the grounds bucket.





V. Overall Cleaning

Inspect your merchandiser both inside and out. Be sure to check corners and all less visible parts of the merchandiser.

Clean where needed.

Allow the inside of the cabinet to dry thoroughly before you close the door.

National Vendors recommends using the following supplies:

- A commercial glass cleaner on the glass in the cabinet door.
- A mild detergent and warm water on the cabinet, brewer, and other NON ELECTRICAL components.

WARNING

The plastic parts in your merchandiser should be cleaned with mild detergent and warm water. The use of other cleaning agents may damage the material, and should be avoided.

VI. Preventive Maintenance Cleaning

Periodically, you should visually inspect your merchandiser's hot water tank for excessive lime and scale buildup. This buildup on the tank walls, water valves, and heater element will vary dramatically, depending upon water quality. You should develop a cleaning and de-limeing schedule based on the apparent local water quality.

NOTE

To aid in removing scale from your merchandiser, National Vendors has a service kit available: part number 6400080. In addition, if your machine has the Everpure water inlet filter system option, a second kit (part number 6400086) is also available.

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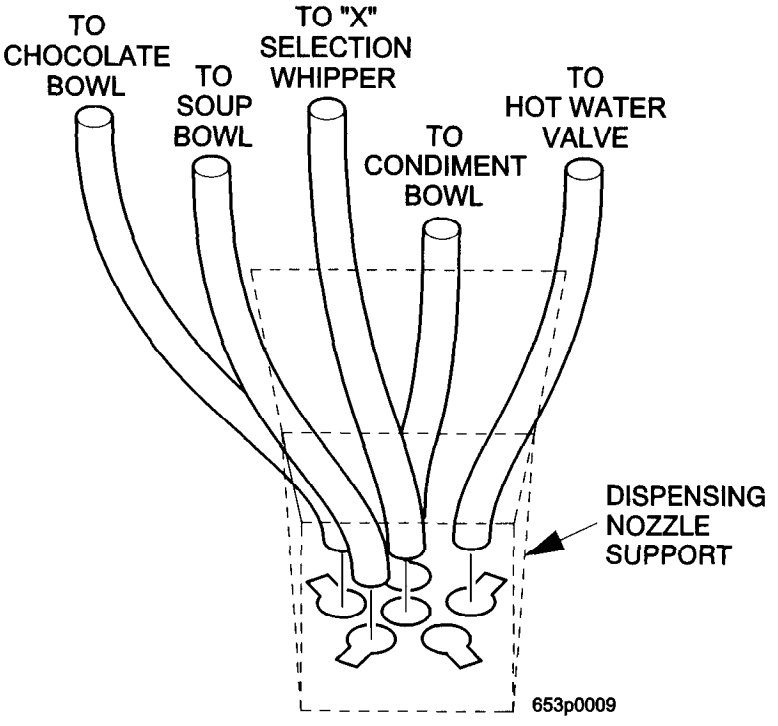

TUBE ROUTING DIAGRAM

Recommended Cleaning And Sanitation Intervals

ITEM	DAILY	WEEKLY	MONTHLY	QUARTERLY	SEMI-ANNUALLY
Ingredient Canisters	C		S		
Mixing Bowls	C	S			
Whipper Funnels and Impellers	C	S			
Beverage Discharge Nozzles	C	S			
Brewer, Brewer Barrel and Brewer Funnel	C	S			
Bean Grinder & Coffee Chutes	C	S			
Bean Grinder Housing		S			
Brewer Mechanism		C			
Cup Delivery Compartment	C				
Exhaust Fan Filter		C			
Grounds Pail	C				
Waste Pail	C				

S = Sanitize at this interval

C = Clean only at this interval

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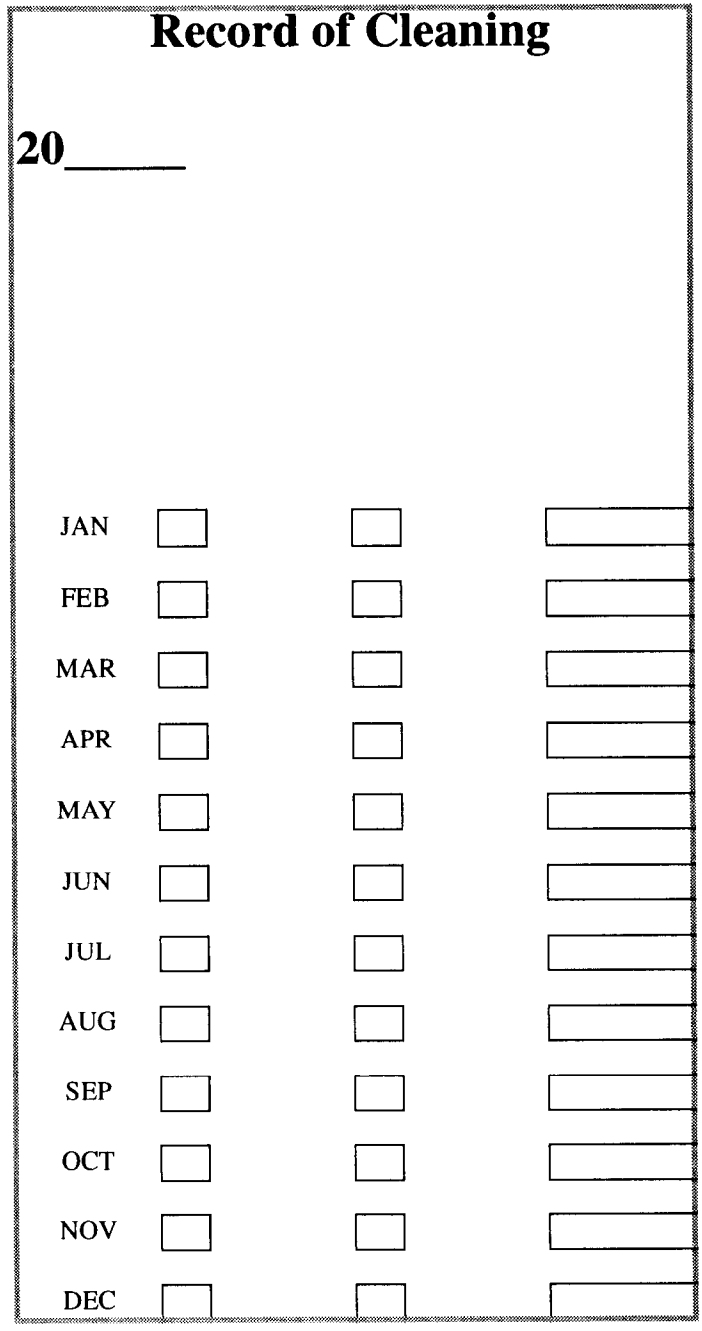
Make copies of this cleaning record, cut it out, and keep it in the plastic bag mounted on the inside of the door. It will be your record of cleaning your Hot Drink Center.



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Terms and Conditions of Sale

LIMITED WARRANTY: Subject to the limitation specified herein, all parts included on original equipment manufactured by CRANE MERCHANDISING SYSTEMS and sold to purchaser are warranted for one year from the date of shipment of the equipment in question. This warranty applies only to the original purchaser of the Merchandiser and is null and void if the Merchandiser is sold during the period of warranty.

Defective parts will be repaired or replaced free of charge when the defective part is returned, with transportation charges prepaid by purchaser, to a destination designated by CRANE MERCHANDISING SYSTEMS.

This warranty does not include any cost of service rendered or repairs made by customer or its agents on Merchandiser, or parts, unless authorization to incur such expense has been given in writing by CRANE MERCHANDISING SYSTEMS prior to incurring such expense. This warranty does not cover labor and service charges performed by CRANE MERCHANDISING SYSTEMS service technicians.

This warranty does not apply to A) electrical components, wiring, or circuits or mechanical parts or assemblies damaged as a result of operating the Merchandiser at other than the design voltage and frequency specified on the Electrical Rating Tag, or B) in event of vandalism, fire or negligence, or C) incandescent lamps, neon lamps, fluorescent lamps, ballasts, starters or other expendable items, or D) when seal is broken on electronic boards, or E) when other manufactured components are installed in CRANE MERCHANDISING SYSTEMS Merchandisers.

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Replacement parts sold by CRANE MERCHANDISING SYSTEMS as After Market shall be covered for three months from the date shown on the parts invoice. Purchaser must obtain prior RETURN AUTHORIZATION for return of all parts, following guidelines given by CRANE MERCHANDISING SYSTEMS.

New, unused parts purchased as After Market can be returned within 30 days from date of parts invoice, with prior authorization from CRANE MERCHANDISING SYSTEMS.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY OF FITNESS FOR A PARTICULAR PURPOSE. CRANE MERCHANDISING SYSTEMS SHALL NOT BE RESPONSIBLE FOR CONSEQUENTIAL OR PUNITIVE DAMAGES. CRANE MERCHANDISING SYSTEMS neither assumes nor authorizes any person to assume for it any obligation or liability in connection with the sale of said equipment or any part thereof.